Food Safety FIRST:
Online Education for Science Teachers

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Background

- Children prepare food for themselves and families, and will form tomorrow's foodservice workforce.
- One approach to reducing foodborne illness is educating youth in food safety and handling.
- There are many places where food can fit in a secondary curriculum. Food can serve as a tangible example for many scientific principles.
- Training science teachers in food safety will enable them to integrate food safety into a science curriculum and improve youth food handling skills.

Goal: To promote food safety education for youth and adults

Objectives:

- To determine baseline food safety attitudes, knowledge and behaviors of science teachers.
- To develop an online food safety education course geared to science teachers and their students.
- Teachers will:
  - increase knowledge and application of food safety
  - increase familiarity and use of the Internet
  - apply food safety activities in the classroom
- Youth will:
  - increase food safety knowledge and improve food handling behaviors

Needs Assessment: 221 NSTA Teachers

- Most teachers had knowledge of basic food safety principles, but many reported unsafe thawing and cooling practices.
- Over 80% of the teachers were interested in learning more about food safety classroom and lab activities, but less than 1/3rd were using activities.
- Only 37% were comfortable teaching food safety.

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Back Search Favorites Media

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Food Safety is FIRST in preventing foodborne illness

FOOD SAFETY FIRST

Food Science **I**nquiry **R**esources **S**cience Education Standards **T**eaching Critical Thinking

HOME

How to Enroll

Contact Us

LOGIN

Welcome to Food Safety FIRST,

an online education program designed to help you and your students gain food safety knowledge, safe food handling practices, and critical thinking skills.

With Food Safety FIRST You Can:

- Develop meaningful student projects that meet National Science Standards
- Try new ways to practice inquiry-based teaching and learning
- Get teaching ideas and engaging support materials like videos, PowerPoint presentations, and activity sheets
- Gain laboratory skills for you and your students
- Communicate about teaching food safety with peers around the world
- Receive university-based professional development
- Help prevent foodborne illness

Why **Food Safety FIRST?**

- Involve your students in real-life science

About This Program

Explore a Course

FAQs

Food Safety FIRST Elements

- Website with food safety links, inquiry-based learning, and science education standards.
- 3 online modules, 2-3 hr/week for 5 weeks:
  - Bacteria Are Everywhere
  - Food Handling is a Risky Business
  - Current Controversies in Food Science
- Interactive asynchronous discussions.
- Science and our Food Supply (FDA) curriculum.
- CD-ROM with videos of lab techniques, interactive activities, lab reports, PowerPoint presentations.
- Lab kit of supplies to complete module activities.
- Alumni listserv.

Topic Listing Offline Viewer

Discussions: **Week 2 Microbe Match Discussion**

Previous Topic Next Topic

View messages within this topic.

Show One | **Show All**

Message Order: **Threaded** | Date | Topic | Author

Legend: ☑ = edit,

Topic: Week 2 Microbe Match Discussion

Subject: Week 2 Microbe Match Discussion *Posted: Dec-18-03 at 10:51 AM by Patricia Beffa-Negrini* Reply

How did you do on the Microbe Match activity? Was there anything that surprised you? Would this be an engaging activity to use with your own students?

Subject: Re:Week 2 Microbe Match Discussion *Posted: Dec-18-03 at 11:01 AM by Nancy Cohen* Reply

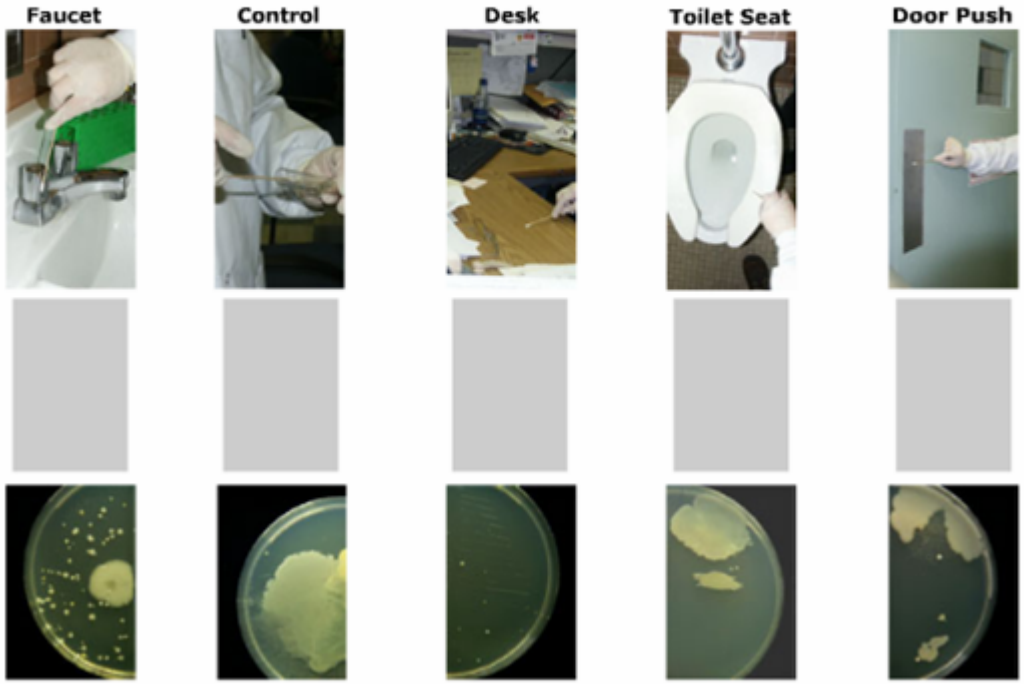
It was amazing to see that surfaces that I thought would have few bacteria actually had a lot. I think that my students would enjoy doing the Microbe Match activity before they tried swabbing surfaces in my classroom.

Subject: Re:Week 2 Microbe Match Discussion *Posted: Dec-18-03 at 11:54 AM by Mort Sternheim* Reply

I agree with Nancy, the results did not come out exactly as I expected. This activity could be a useful starting point for an inquiry-based learning project about why bacteria live along side us in our environment and microbial functions — both good and bad.

Return to top

Where do think you would find the most bacteria? Below are pictures of four sites that were swabbed and cultured in Petri plates, along with one control. Drag the Petri plate to the box under the site you think it came from - if you are correct, it will pop into place.



Results

- 151 teachers participated in online courses (97 completed); additional 30 teachers participated in live activities for taping
- Matched pretests and posttests of attitudes, comfort teaching food safety, and practices were collected from 38 teachers.
- Perceived barriers to teaching food safety decreased, from 9.4 to 8.1 (max score 10)
- Food handling practices increased significantly, from 24.8 to 27.7 (max score of 35)
- Perceived comfort in teaching food safety increased significantly, from 2.8 to 3.6 (max: 4).

Teacher Followup

- After the program, teachers reported teaching food safety in the classroom for an average of 12.4 hours, with an average of 67 students.
- Youth surveys (preliminary) indicate that most were knowledgeable about food safety, but did not always practice safe food handling.
- The majority of youth reported talking about food safety with family members.

Teacher Feedback

- *"… I really liked the demonstration... it really highlighted the use of controls in an experiment, which is a concept that is difficult for most of my middle level students to grasp."*
- students *"were engaged, eager to present information, and willing to follow through on safety procedures. … the facts will stick with them throughout their lives."*
- **"***... of the six or so online classes I've taken, I think that this one and the way you monitor the websites, provide feedback and assistance and resources ranks right up on the top. You really do a great job."*
- *"Just want to let you know I've fallen in love...with this on-line course! I hope I'm not becoming addicted!***"**

Conclusions

- Food Safety FIRST, an interactive online course based on inquiry learning, was successful in improving science teacher food handling practices and food safety education in the classroom.
- Secondary youth participated in food safety activities, demonstrated food safety knowledge, and shared information with families.

Food Safety FIRST Team

- Rita Brennan Olson
- Nancy Cohen
- Patsy Beffa-Negrini
- Lynne McLandsborough
- Lynne Thompson
- Mary Jane Laus
- Matthew Mattingly
- Andy Slocombe
- NSTA Staff
- Wendell Mohling
- Al Byers
- Advisory Council
- Mort Sternheim

Thank You!

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